

WHAT IS CLAIMED IS:-

1. A semiconductor package, comprising:

first and second semiconductor chips, each having a first side, wherein a plurality of chip pads are formed on the first side of each of the semiconductor chips; and

5 a bonding tape attached to the first sides of the first and second semiconductor chips, wherein conductive interconnections of the bonding tape electrically couple respective ones of the chip pads on the first and second semiconductor chips.

10 2. The semiconductor package of claim 1, wherein the first and second semiconductor chips are positioned such that the first sides of each of the semiconductor chips are internally positioned, and wherein a portion of the bonding tape not adhered to the first and second semiconductor chips is externally exposed.

15 3. The semiconductor package of claim 1, wherein the first and second semiconductor chips are positioned such that the first sides of each of the semiconductor chip is externally exposed, and wherein portions of the bonding tape adhered to the first and second semiconductor chips are externally exposed.

20 4. The package according to claim 1, further comprising a heat conducting plate positioned between and attached to the first and second semiconductor chips.

5. The semiconductor package of claim 4, further comprising non-conductive adhesive layers that attach the first and second semiconductor chips to opposite sides of the heat conducting plate.

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6. The semiconductor package of claim 4, wherein the heat conducting plate is positioned between the first and second semiconductor chips so that it does not contact the bonding tape.

7. The semiconductor package of claim 4, further comprising a molding compound that is positioned in a space between the bonding tape, the first and second semiconductor chips, and the heat conducting plate.

8. The semiconductor package of claim 1, wherein portions of the plurality of conductive interconnections of the bonding tape are plated with an electrically conductive material.

9. The semiconductor package of claim 8, wherein the electrically conductive material is silver.

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10. The semiconductor package of claim 1, further comprising a plurality of conductive media that are attached to the bonding tape, and that form external leads of the package.

5 11. The semiconductor package of claim 10, wherein the conductive media are solder balls.

12. A bonding tape for joining two semiconductor chips and for electrically coupling respective chip pads on the two semiconductor chips, comprising:

10 a flexible adhesive layer configured to be adhered to first surfaces of first and second semiconductor chips to attach the first and second semiconductor chips to each other; and

15 a plurality of conductive regions formed on the adhesive layer such that when the adhesive layer is adhered to first and second semiconductor chips, the conductive regions will electrically couple chip pads on the first semiconductor chip to corresponding chip pads on the second semiconductor chip.

13. A method for fabricating stacked semiconductor packages, comprising the steps of:

20 cutting a wafer having a plurality of semiconductor chips formed therein into a plurality of individual semiconductor chips;

adhering a bonding tape having conductive interconnections to first sides of adjacent pairs of the semiconductor chips so as to electrically couple corresponding chip pads of adjacent pairs of the semiconductor chips;

cutting the bonding tape so that only adjacent pairs of the semiconductor chips  
5 are attached to each other; and

stacking adjacent pairs of the semiconductor chips, by bending the bonding tape, so that the first sides of the semiconductor chips of each pair are substantially parallel.

14. The method of claim 13, further comprising the step of attaching a plurality of  
10 conductive media to the bonding tape, wherein the plurality of conductive media serve as external leads of the package.

15. The method of claim 14, wherein the step of attaching a plurality of conductive media comprises attaching a plurality of solder balls to the conductive interconnections.

16. The method of claim 13, further comprising a step of plating the conductive  
15 interconnections of the bonding tape with an electrically conductive material.

17. The method of claim 13, further comprising the steps of:  
attaching the wafer to a mounting foil before performing the cutting step; and  
20 removing the adjacent pairs of semiconductor chips from the mounting foil after performing the step of cutting the bonding tape.

18. The method of claim 13, wherein the stacking step comprises aligning the semiconductor chips such that the chip pads are on external sides of the package.

5 19. The method of claim 13, wherein the stacking step comprises aligning the semiconductor chips such that the chip pads are located on internal sides of the semiconductor chips that face one another.

10 20. The method of claim 13, further comprising the step of attaching each of the semiconductor chips of an adjacent pair to opposite sides of a heat conducting plate.

21. The method of claim 20, further comprising the step of injecting a molding resin into a space formed between the bonding tape, the plate, and the pair of semiconductor chips.

15 22. A method of forming a stacked semiconductor chip package, comprising the steps of:

attaching a first semiconductor chip to a second semiconductor chip using a bonding tape that adheres to first surfaces of the first and second semiconductor chips, wherein conductive interconnections on the bonding tape also electrically couple corresponding chip  
20 pads formed on the first surfaces of the first and second semiconductor chips; and

bending the bonding tape such that the first surfaces of the first and second semiconductor chips are arranged substantially parallel to one another.

23. The method of claim 22, further comprising the step of attaching a plurality of  
5 conductive media to the conductive interconnections of the bonding tape such that the plurality of conductive media can serve as external leads of the semiconductor chip package.

24. The method of claim 23, wherein the plurality of conductive media are attached  
10 to the bonding tape in a staggered arrangement.

25. The method of claim 22, further comprising a step of attaching the first  
semiconductor chip to the second semiconductor chip.

26. The method of claim 22, further comprising a step of attaching the first and  
15 second semiconductor chips to opposite sides of a heat conducting plate using layers of an electrically non-conductive adhesive.

27. The method of claim 26, wherein the step of attaching the first and second  
semiconductor chips to opposite sides of a heat conducting plate forms a space between the  
20 heat conducting plate, the bonding tape and the first and second semiconductor chips, and further comprising a step of filling the space with an electrically non-conductive material.